High-powered police motorcycle: muscle discomfort among Malaysian traffic police riders

ABSTRACT

Discomfort due to riding a motorcycle is an issue that need to be addressed as it has long-term effects of musculoskeletal disorders on motorcyclists especially among occupational motorcyclist. Thus, this study was conducted to analyse the rating of muscle discomfort and correlation with the risk factors among traffic police riders. A cross-sectional study was carried out among 137 male traffic police riders (high-powered motorcycle) with the age between 20 to 39 years old. The 100-mm visual analogue scale questionnaire included ratings of perceived discomfort scales for 20 specific body regions was used in the study. The results indicate that the lower back (left and right) were the highest mean of discomfort which were 56.6 mm and 55.9 mm respectively. This followed with right (48.5±36.2 mm) and left (48.4±30.3 mm) upper back, and right hand (47.0±33.0 mm). The mean of overall discomfort ratings for all regions were more than 20 mm. Besides, there is a strong positive significant correlation between duration of ridings (hours) and overall discomfort ratings ($p<0.01$, $r=0.785$) and moderate positive correlation between year of traffic police motorcycle riding experience and overall discomfort ratings ($p<0.01$, $r=0.410$). As a conclusion, cumulative riding hours, riding experience and no support of the back area of the body in motorcycle seat, are the most concern in this study as this are the contributing factors to the muscle discomfort among traffic police riders while riding high-powered motorcycle. Thus, this study suggested an additional feature is needed in current motorcycle design in order to enhance comforts of traffic police riders. Also, it will improve the condition of traffic police riders' discomfort and indirectly also improve their work and health performance as well as productivity.

Keyword: Body region; Musculoskeletal disorders; Riding; Posture; Visual Analogue Scale